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ABSTRACT

This study investigates cultural differences in second language aural comprehension levels among Asians under the constraints of background noise. It is determined that noise is an important component of language proficiency, for it is found where most interactions take place. Students from Hong Kong, Seoul (Korea), Tokyo (Japan), and the South Pacific Islands participated in two noise tests--noise dictation and the Embedded Conversations Test--as well as written exams. Significant differences were found among the groups, and in comparison with other ESL tests, the noise tests were the most anxiety-producing for each group. However, the results contradict the hypothesis that urban Asians have an advantage over South Pacific islanders on language tests presented with background noise. The island students, from cultures characterized by strong oral traditions, tended to score higher on tests involving listening and speaking than on written tests, while the Hong Kong and Korean students scored higher on the written components. The findings suggest that for ESL program placement, the use of scores from a single test as assessment of overall English language ability could put some students at a disadvantage. (MSE/TR)

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THE ESL NOISE TEST: CULTURAL DIFFERENCES IN AFFECT AND PERFORMANCE

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Most language teaching takes place in situations where full attention is given the speaker and where acoustic conditions are optimal. This is in sharp contrast to natural language interactions where many people are often speaking simultaneously, where attention shifts, and noise is an integral part of the situation. In fact, noise is as natural a part of language use as the speech signal itself.

The ability to understand spoken language under the constraints of background noise is an important component of language proficiency, one likely to vary between groups of learners to the extent that past experience and environment affect the skill. For example, in intercultural classrooms such as ours at BYU-Hawaii, students from small communities on peaceful Pacific islands have had vastly different auditory experiences than their classmates from crowded Asian cities, such as Hong Kong, Seoul or Tokyo. It may be that their tolerance for background noise and their ability to deal with it in language-use situations differs as well. The present study explores this possibility as it compares group reactions to and performance on aural language tests with noise background.

The development of such noise tests in the past has been motivated by a search for measures of overall language proficiency, rather than by any questions related to cultural differences in language learners. In the late sixties Spolsky and his colleagues conducted experiments in which sentences involving the discrimination of certain sound contrasts were presented with white noise at various signal to noise ratios (Spolsky et al. 1968). Subjects were instructed to write down the sentences they heard. Scores on these dictation noise tests correlated rather highly with general measures of language proficiency, prompting Spolsky et al. to suggest that the technique could be used as a measure of listening comprehension as well as an efficient and economical measure of general language ability.

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In response to criticisms that the Spolsky experiments tested "language-like behavior" and not language behavior itself (Johannson 1973), new contextualized versions of the noise test were developed in the mid-seventies (Whiteson and Seliger 1975, Gaies, Gradman and Spolsky 1977). These were found to effectively differentiate native and non-native speakers of English, to correlate reasonably well with other measures of language proficiency, and to be particularly effective in the discrimination of weak and strong non-native speakers of English.

Issues concerning a possible affective bias in the noise test were raised by a two-year study using a modified version of Spolsky's sentences heard against white noise in which Johannson (1973) found that the reactions of some students to the test were very negative. Therefore, he concluded that noise test results for them are questionable since a low score may be caused by factors unrelated to language proficiency. Similar observations of unusually high anxiety associated with the noise tests has also been reported by other researchers (Whiteson and Seliger 1975, Gaies et al. 1977). Such anxiety in testing situations has a substantial effect on test performance (Madsen 1982, Arpeitia 1982) and may differ significantly in magnitude among cultural groups. A study by Barabasz (1970) reported that American blacks exhibit greater test anxiety than do Caucasians in American schools. Subsequent work contrasting the test anxiety experienced by American blacks with West Indies blacks found the latter much less test anxious (Bronzaft et al. 1974). Two recent investigations of reactions to ESL tests indicate that Japanese students exhibit greater negative reactions to a number of English tests than do Spanish speakers (Madsen 1982, Scott and Madsen 1983).

In the abundant literature on test anxiety, a distinction is made between trait and state anxiety; trait anxiety refers to a stable characteristic of personality, while state anxiety refers to transitory characteristics which fluctuate in response to different stimuli (Tobias et al. 1972, Spielberger 1966). Cultural differences in the level of state anxiety experienced by students in response to ESL noise tests are of interest in the present study.

A second area of focus in this investigation is the differential performance profiles of cultural groups on the noise tests in comparison with other ESL measures. In previous research, such profiles have been found to vary significantly among groups (Hisama 1980, Farhady 1982, Hansen forthcoming) indicating differing strengths and weaknesses on various language tests according to cultural background. Farhady (1982) compared 800 foreign students who took the UCLA English as a Second Language Placement Examination. ANOVAs performed on each of six subtests showed F values significant at the .01 level, indicating that the relative performances of students from different countries on the subtests differed by group.

Such group tendencies are examined in the present study as answers are sought to the questions: 1. Does the text anxiety associated with ESL noise tests vary significantly between cultural groups? 2. Does performance on aural language tests presented with background noise, in relation to perfo...ance on other language measures, vary significantly between cultural groups?

METHOD

Subjects

A total of 66 studen[illegible] completed final examinations in the English Lan-

guage Institute at BYU-Hawaii Campus during December of 1983 participated in the study. Cultural groups represented in the sample were Chinese from Hong Kong (N = 24), Japanese (N = 10), Korean (N = 11), South Pacific Islands (N = 21; 5 Samoan, 5 Tongan, 11 Micronesian). The Asian students all came from cities with a population of over one million. Students were from the four proficiency levels of the ELI program, and had scores ranging from 54 to 88 on the *Michigan Test of English Language Proficiency*.

Materials and Procedures

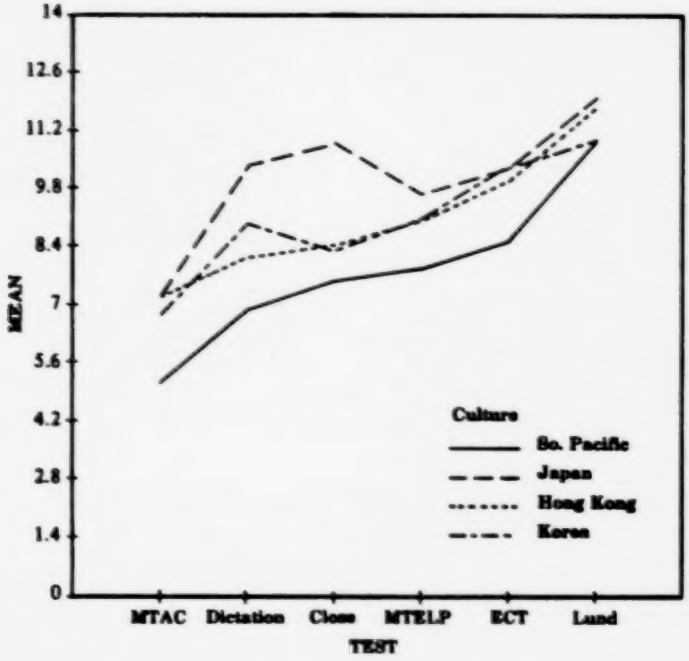
Two noise tests were used in the study: the noise dictation developed by Johannson (1973) in Lund, Sweden, and the Embedded Conversations Test (ECT) developed in Hawaii. The Lund Test consists of isolated sentences heard against a background of white noise at four different signal to noise ratios varying between + 10 db and ± 0 db. Students are instructed to write each of the sentences they hear on an answer sheet. The English version of the ECT used in this study consists of 12 short dialogues heard against a background of conversation and party noise, six of them mixed at a + 3 db average signal to noise ratio and six at a + 0 db average ratio. After listening to each of the conversations on the test, the subject writes down the last sentence heard, and then answers multiple choice questions on the content of the conversation. There are 12 dictated sentences and 20 multiple choice questions in all. The noise tests were administered in December 1983 as part of the final exam battery for fall semester in the reading classes of the English Language Institute (BYU-Hawaii). Other exams administered during the same week which are used for comparison in the present study are the *Michigan Test of English Language Proficiency*, the *Michigan Test of Aural Comprehension*, a written cloze test (with every seventh word deleted and scored by acceptable synonym method), a dictation test (read three times, the second with pauses for writing), and a speaking evaluation consisting of three subtests given on three separate days, each rated by a different pair of examiners: (1) a three minute speech which the student had prepared, (2) reading of a prepared passage, (3) interaction with examiners focusing on a picture.

Some of the exams were required for students only in particular skill classes (MTAC for listening classes, speaking evaluation for speaking classes, dictation and cloze test for reading classes). Since a few students who took the noise tests were not required to enroll for all of the four skill courses, some variations in N sizes among the tests was unavoidable.

Following the completion of these tests (except the speaking evaluations), the students were given a three-item state anxiety questionnaire adapted from the Jones-Madsen Affect Questionnaire (Jones and Madsen 1980, Scott and Madsen 1983). Responses were on a five-point Likert-type scale (ranging from "strongly agree" to "strongly disagree") on the following statements: (1) I liked the test, (2) This test was difficult, (3) I felt pleasant (happy, calm) during this test.

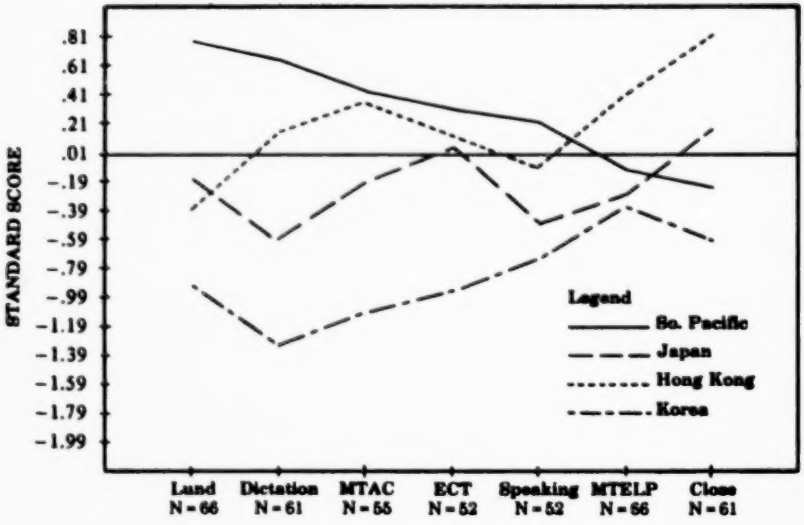
State anxiety ratings of the English noise tests and four other proficiency measures are shown by culture in Figure 1.

FIGURE 1
State Anxiety Ratings by Culture
for the Noise Tests
and Other ESL Tests



As a group, the South Pacific island students appear to be least anxiety prone in language testing situations, and in accordance with previous ESL research (Madsen 1982) the Japanese, the most anxiety prone. The differences among the groups in anxiety associated with the noise tests (Lund and ECT) were not, however, statistically significant. Of all the ESL measures the noise tests were the most anxiety producing for each of the groups tested. They were the only measures on an absolute scale that consistently registered in the +Anxiety range (above 9.0) as defined by Madsen (1982). The test results for each culture were converted to standard scores in order to facilitate group comparisons of performance on the seven ESL measures used in the present study. These data (Figure 2) show performance profiles which differ significantly among groups as indicated by one way ANOVAs, below the .01 level for the *MTAC*, ECT and cloze test, and below the .001 level for the Lund and dictation tests. The performance profiles, however, fail to support a hypothesis that urban Asians have an advantage over South Pacific islanders on language tests presented with background noise.

FIGURE 2
Performance by Culture
on the Noise Tests
and Other ESL Tests



On the contrary, the performance of the island students on the noise tests is high in comparison to other ESL measures. Among the Asian groups the Japanese scores on the Lund and ECT are also quite high in relation to the other tests. The Hong Kong and Korean noise test scores, on the other hand, are comparatively low among their ESL test scores. Thus, although there are significant group differences in success on the noise tests, they are not in the expected direction. The rural South Pacific students not only report less (though not significantly less) anxiety in noise testing situations than their urban Asian classmates, but they also tend to score higher on the noise tests in relation to their scores on the other ESL measures.

These data tend to confirm teacher impressions (James 1983) and pilot research findings (Hansen forthcoming) at the English Language Institute (BYU-Hawaii) that the Asian students are relatively stronger in literacy skills, while the South Pacific students have an advantage in the oral component of language. Scores for the South Pacific students on the two written tests (the *MTELP* and the cloze) are consistently below those on the tests which include the spoken modality, including the noise tests. These island students, from cultures characterized by strong oral traditions, tend to score higher on tests which involve listening and speaking than they do on tests confined to the written word. A reverse is apparent for the Hong Kong and Korean students on the other hand. They score higher on the *MTELP* and cloze than on any of the other language tests. It may be that while the rural/urban dichotomy fails as an explanatory variable

in the differential group performance on noise tests, the values and traditions of a culture related to oral and literacy skills are influential factors in determining such variation in test performance across groups.

The need for further investigation of cultural differences in second language learning and testing is indicated from these preliminary findings. Confirmation from future research of consistent group strengths and weaknesses in performance on various types of language tests would have important implications for ESL test selection and interpretation. The use of scores from a single test such as the *MTELP* or cloze, as the sole instrument for placement in an ESL program, could put some groups at a disadvantage in the assessment of their overall English ability, as would apparently be the case for the South Pacific students in this study.

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